Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Prevously amended) An ultrasound imaging system suitable for use in measuring cardiac output of a patient's heart and simultaneously imaging the left ventricle area of the heart for accurate placement of a pacing electrode, said system comprising:

(1) an ultrasound imaging catheter designed for intracardiac use comprising at least one transducer utilizing piezoelectric properties to generate acoustic signals from electrical signals in order to obtain ultrasound signals, wherein the at least one transducer is suitable for insertion into the patient's heart and to obtain ultrasound signals associated with an area of the patent's heart in which cardiac output is to be measured;

(2) digital and/or analog electronics capable of generating and processing ultrasound signals from the at least one transducer to generate B-mode, M-mode, or Doppler representations of the cardiac output of the patient's heart; and

(3) an associated computer that can generate and process the ultrasound signals in order to simultaneously measure the cardiac output in the patient's heart and display an image of the area of the patient's heart.

2. (Original) The ultrasound imaging system of claim 1, wherein the system can additionally provide a representation of the ECG of the patient's heart.

3. (Original) The ultrasound imaging system of claim 1, wherein the ultrasound signals are used to generate the M-mode representation of the cardiac output.

4. (Original) The ultrasound imaging system of claim 1, wherein the ultrasound signals are used to generate the Doppler representation of the cardiac output.

5. (Original) The ultrasound imaging system of claim 1, wherein the at least one transducer has a tube size of 12 French or less.

6. (Original) The ultrasound imaging system of claim 2, wherein the at least one transducer is a phased array transducer having a plurality of ultrasonic energy generation units.

7. (Original) The ultrasound imaging system of claim 3, wherein the at least one transducer is a phased array transducer having a plurality of ultrasonic energy generation units.

8. (Original) The ultrasound imaging system of claim 4, wherein the at least one transducer is a phased array transducer having a plurality of ultrasonic energy generation units.

9. (Original) The ultrasound imaging system of claim 1 further comprising defibrillation electrodes whereby, if and when needed, internal cardiac defibrillation can be carried out.

10. (Original) The ultrasound imaging system of claim 1 further comprising a temperature sensing device adjacent to the at least one transducer to monitor temperature near the at least one transducer and a mechanism provide a warning or to shut off power to the at least one transducer if the temperature near the at least one transducer rises above a predetermined level.

11. (Previously amended) A method of placing an electrode at a desired position at or near the left ventricle of a patient's heart in order to electrically activate the left ventricle of the patient's heart using the electrode and simultaneously measuring the cardiac output of the patient's heart, said method comprising:

(1) advancing the electrode to the proximity of the upper left ventricle;

(2) placing an ultrasound imaging catheter in a position to image the left ventricle of the patient's heart, wherein the ultrasound imaging catheter comprises at least one transducer utilizing piezoelectric properties to generate acoustic signals from electrical signals in order to obtain ultrasound signals and wherein the at least one transducer is suitable for insertion into the patient's heart and to obtain ultrasound signals associated with an area of the patent's heart and the cardiac output of the heart;

(3) utilizing the ultrasound imaging catheter to simultaneously measure the cardiac output of the heart and image the electrode at or near the left ventricle of a patient's heart and to guide the electrode to the desired position; and

(4) attaching the electrode to the desired position.

12. (Original) The method of claim 11, wherein the desired position is an upper portion of the left ventricle.

13. (Original) The method of claim 11, wherein the ultrasound signals are used to generate a Doppler representation of cardiac output of the patent's heart and the Doppler representation is used to assist in determining the desired position.

14. (Original) The method of claim 13, wherein the Doppler representation of cardiac output is generated for different locations of the electrode or from different pacing parameters of the electrode and the cardiac output from the different location or different

pacing parameters are compared in order to determine the desired position or desired pacing parameters.

15. (Original) The method of claim 12, wherein the electrode is advanced endocardially or epicardially.

16. (Original) The method of claim 11, where the at least one transducer comprises a linear array type transducer, a curved linear array type transducer, or a phased array type transducer.

17. (Original) The method of claim 11, wherein the at least one transducer has a tube size of 12 French or less.

18. (Original) The method of claim 11, wherein the at least one transducer is a phased array transducer having a plurality of ultrasonic energy generation units.

19. (Original) The method of claim 11, wherein the at least one transducer is a phased array transducer having a plurality of ultrasonic energy generation units.

20. (Original) The method of claim 13, wherein the cardiac output is determined as stroke volume, ejection fraction, or flow rate.

21. (Original) The method of claim 11, wherein the at least one transducer, once positioned to image the left ventricle of the patient's heart, can be rotated to image other portions of the patient's heart.

22. (Original) The method of claim 11, wherein the ultrasound imaging catheter further comprises defibrillation electrodes whereby, if and when needed, internal cardiac defibrillation can be carried out during the method.

23. (Original) The method of claim 13, wherein the ultrasound imaging catheter further comprises defibrillation electrodes whereby, if and when needed, internal cardiac defibrillation can be carried out during the method.

24. (Original) The method of claim 13, wherein the ultrasound imaging catheter further comprises a temperature sensing device adjacent to the at least one transducer to monitor temperature near the at least one transducer and a mechanism provide a warning or to shut off power to the at least one transducer if the temperature near the at least one transducer rises above a predetermined level.

25. (Currently amended) An ultrasound imaging system suitable for use in measuring cardiac output of a patient's heart and simultaneously imaging the left ventricle area of the heart for accurate placement of a pacing electrode, said system comprising:

(1) an ultrasound imaging catheter designed for intracardiac use comprising a multi-element array transducer utilizing piezoelectric properties to generate acoustic signals from electrical signals in order to obtain ultrasound signals, wherein the multi-element array transducer is suitable for insertion into the patient's heart and to obtain ultrasound signals associated with the patent's heart;

(2) digital and/or analog electronics capable of generating and processing ultrasound signals from the multi-element array transducer to generate and display a representation of [[~~(a)~~]] the electrocardiogram of the patient's heart or a real time image of the patient's heart.

26. (Original) The ultrasound imaging system of claim 25, wherein electrocardiogram of the patient's heart is a surface or an intracardiac electrocardiogram.

27. (Original) The ultrasound imaging system of claim 25, wherein the multi-element array transducer has a tube size of 12 French or less.

28. (Original) The ultrasound imaging system of claim 25, wherein the multi-element array transducer is a phased array transducer having a plurality of ultrasonic energy generation units.

29. (Original) The ultrasound imaging system of claim 27, wherein the multi-element array transducer is a phased array transducer having a plurality of ultrasonic energy generation units.

30. (Original) The ultrasound imaging system of claim 25, wherein the cardiac output is determined as stroke volume, ejection fraction, or flow rate.

31. (Original) The ultrasound imaging system of claim 25, where the representation ultrasound signals can be displayed relative to, and compared to, a voltage conduction map of the patient's heart.

32. (Original) The ultrasound imaging system of claim 25 further comprising an integrated pacemaker programmer such that operating parameters of a pacemaker attached to, or in electrical communication to, the patient's heart can be monitored and modified in order to determine optimal or near-optimal operating parameters based on information from the ultrasound signals from the multi-element array transducer.

33. (Original) The ultrasound imaging system of claim 25 further comprising defibrillation electrodes whereby, if and when needed, internal cardiac defibrillation can be carried out.

34. (Original) The ultrasound imaging system of claim 33, wherein the defibrillation electrodes are incorporated into the ultrasound imaging catheter.

35. (Original) The ultrasound imaging system of claim 25, wherein the ultrasound imaging catheter further comprises a temperature sensing device adjacent to the at least one transducer to monitor temperature near the at least one transducer and a mechanism provide a warning or to shut off power to the at least one transducer if the temperature near the at least one transducer rises above a predetermined level.